

# **CONTACT METHOD FOR THIN SILICON CARBIDE EPITAXIAL LAYER AND SEMICONDUCTOR DEVICES FORMED BY THOSE METHODS**

## **Abstract of Disclosure**

Provided is a process for forming a contact for a compound semiconductor device without electrically shorting the device. In one embodiment, a highly doped compound semiconductor material is electrically connected to a compound semiconductor material of the same conductivity type through an opening in a compound semiconductor material of the opposite conductivity type. Another embodiment discloses a transistor including multiple compound semiconductor layers where a highly doped compound semiconductor material is electrically connected to a compound semiconductor layer of the same conductivity type through an opening in a compound semiconductor layer of the opposite conductivity type. Embodiments further include metal contacts electrically connected to the highly doped compound semiconductor material. A substantially planar semiconductor device is disclosed. In embodiments, the compound semiconductor material may be silicon carbide.

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